WHAT IS CLAIMED IS:

1. A diode-pumped solid-state laser device used to side-pump a laser rod, wherein:

a cooling tube to cool said laser rod with the use of flowing water is provided coaxially so as to surround said laser rod; and

said cooling tube is provided with a antireflection area for pumping light on a portion of an outer surface thereof, and with a high reflection area for the pumping light on another portion of the outer surface on which said antireflection area is absent.

2. The diode-pumped solid-state laser device according to Claim 1, wherein:

a pumping laser diode is placed in such a manner so as to prevent an optical axis of the pumping light that passes through said antireflection area and goes incident on said laser rod from intersecting with a central axis of said laser rod.

3. The diode-pumped solid-state laser device according to Claim 2, wherein:

said antireflection area is provided to a plurality of places along a circumferential direction of said outer surface.

4. The diode-pumped solid-state laser device

according to Claim 3, wherein:

said antireflection area is provided to said plurality of places at equal intervals along the circumferential direction.

5. The diode-pumped solid-state laser device according to Claim 3, wherein:

said antireflection area comprises a antireflection coating; and

said high reflection area comprises a high reflection coating.

6. The diode-pumped solid-state laser device according to Claim 5, wherein:

said high reflection coating is covered with said antireflection coating.

7. The diode-pumped solid-state laser device according to Claim 5, wherein:

said antireflection area includes said antireflection coating alone; and

said high reflection area includes said high reflection coating on said antireflection coating.

8. The diode-pumped solid-state laser device according to Claim 3, wherein:

said cooling tube is further provided with a

scattering surface on an inner surface thereof.

9. The diode-pumped solid-state laser device according to Claim 3, wherein:

a scattering surface is provided on an outer surface of said high reflection area.

10. A manufacturing method of a diode-pumped solid-state laser device used to side-pump a laser rod, in which a cooling tube to cool said laser rod with the use of flowing water is provided coaxially so as to surround said laser rod, said method comprising:

a step of providing said cooling tube with a antireflection area for pumping light on a portion of an outer surface thereof; and

a step of providing said cooling tube with a high reflection area for the pumping light on another portion of the outer surface on which said antireflection area is absent.

11. The manufacturing method of a diode-pumped solid-state laser device according to Claim 10, further comprising:

a step of placing a pumping laser diode in such a manner so as to prevent an optical axis of the pumping light that passes through said antireflection area and goes incident on said laser rod from intersecting with a central

axis of said laser rod.

12. The manufacturing method of a diode-pumped solid-state laser device according to Claim 11, wherein:

said antireflection area is provided to a plurality of places along a circumferential direction of said outer surface.

13. The manufacturing method of a diode-pumped solid-state laser device according to Claim 12, wherein:

said antireflection area is provided to said plurality of places at equal intervals along the circumferential direction.

14. The manufacturing method of a diode-pumped solid-state laser device according to Claim 12, wherein:

said antireflection area comprises a anti-reflection coating; and

said high reflection area comprises a high reflection coating.

15. The manufacturing method of a diode-pumped solid-state laser device according to Claim 14, wherein:

said high reflection coating is covered with said anti-reflection coating.

16. The manufacturing method of a diode-pumped solid-

state laser device according to Claim 14, wherein:

said antireflection area includes said anti-reflection coating alone; and

said high reflection area includes said high reflection coating on said anti-reflection coating.

17. The manufacturing method of a diode-pumped solid-state laser device according to Claim 12, further comprising:

a step of providing a scattering surface on an inner surface of said cooling tube.

18. The manufacturing method of a diode-pumped solid-state laser device according to Claim 12, further comprising:

a step of providing a scattering surface on an outer surface of said high reflection area.